

**Water Quality Standards Advisory Committee
Meeting Minutes**

February 9, 2004

Members Present:

William Beckwith	US Environmental Protection Agency
Wendell Berry	NH Lakes Association
John Dreisig	NH Public Health – Risk Assessment
Robert Fawcett	NH Fish & Game
Donna Hanscom	NH Water Pollution Control Association
John Hodsdon	NH Farm Bureau
Ken Kimball <i>by Speaker Phone</i>	Appalachian Mountain Club
Vernon Lang	US Fish and Wildlife Service
David Miller	NH Water Works Association
Eileen Miller	NH Association of Conservation Districts
Carl Paulsen	NH Rivers Council
Marjory Swope	NH Association of Conservation Commission
Jason Stock	NH Timberland Owners Association

Members Absent:

Steve Clifton	Consulting Engineers of NH
Michael Donahue	Business and Industry Association of NH
Tim Fortier	NH Travel Council
Ben Frost	NH Office of State Planning
Nancy Girard	Conservation Law Foundation
Bill McDowell	University of New Hampshire
Peter Rice	NH Municipal Association

Others Present:

Neil Cheseldine	Wright-Pierce
Michael Giaimo	BIA Member
Allan Palmer	PSNH
Ronald Rayner	Environmental consultant/BIA member
Andrew Serell	Rath, Young & Pignatelli
Anthony Zuena	SEA Consultants, Inc.
Victor Krea	Wright-Pierce
William Heinz	Granite State Hydropower Assn.

DES Staff Present:

Paul Currier	Administrator, Watershed Management Bureau
Lori Siegel	EcoRisk Assessor, Watershed Management Bureau
Bob Estabrook	Watershed Management Bureau
Gregg Comstock	Watershed Management Bureau
Marie LosKamp	Executive Secretary, Watershed Management Bureau

Introductions/November 18, 2003 Draft Minutes

- **Marjory Swope, Chairperson, called the meeting to order, began with introductions of those present.**
- **Marjory Swope requested someone to make a motion for the committee's approval of the minutes from the November 18, 2003 meeting. Amend minutes by changing Page 8, line 2, from (b) and (bs) to bmps. Paul Currier requested that members e-mail any corrections they may have to Marie. John Hodsdon made a motion to adopt the minutes as amended or as may be amended. David Miller seconded the motion. All in favor say aye, those opposed say nay. Minutes are adopted as revised or as may be revised.**

Draft Revised Sediment Policy by Paul Currier and Lori Siegel (Attachment A PowerPoint Presentation)**Discussion of policy history and proposed changes
BIA issues and DES request for AGO Opinion**

Paul - Lori Siegel will present a PowerPoint presentation on the draft Sediment Policy – 1/15/04 – Lori is the author of these revisions. We really have two issues here, one is the substance of the policy and one is discussions that we have been having with BIA relative to jurisdiction over sediments. Lori is the Ecological Risk Assessor here at DES and she will present the policy and then I will talk a little bit about our discussions with BIA then open it up for comments and questions. This is a policy that implements narrative standards in the rules and we invite your comments on this just as we invite comments on rule making changes; but the formal process for putting this in place and using it is an internal one rather than one that goes through the joint legislative committee on rules. Paul turned the presentation over to Lori.

Lori – This is a draft presentation of what I will be presenting at Consultants Day in March. I will be discussing first the introduction and then I will let you know what questions have been arising as we have been trying to apply the policy that was issued first in April 2002 and then once revised in September of 2002. Then I will present the revisions that I have put into the policy, present a couple of case studies of how this policy has been applied, and then I will tell you who you can get in touch with.

First the Introduction – the policy was first issued in 2002 and revised later that year. It is a risk based approach to satisfy and be consistent with the narrative water quality standards. It is used to decide if aquatic life use is supported and it applies to organisms that live in the sediment and also to higher trophic organisms that may bioaccumulate the contaminants in the sediment. The policy is based on a triad approach to assess the effects on the benthic organisms, it also addresses the bioaccumulation risk for those higher trophic organisms, and it also incorporates a weight of evidence. Triad approach has 3 basic components. First you compare the chemical results with the literature screening values. These values are thresholds, you have the TECs which are the lower thresholds below which you don't expect to see any effects, and the PECs which would be upper thresholds, above which you expect to see effects; then, if necessary, you perform laboratory toxicity bioassays; and finally, if necessary, perform the community assessments to compare to a reference site. Bioaccumulation risk only affects certain contaminants, those that accumulate: for instance mercury, some lipid-soluble organics, e.g., PCBs. Basically you can estimate or measure the tissue concentrations in the top food chain organisms and then compare to the toxicity literature values.

Now what issues have come up? First of all what thresholds do we use. Do we use the upper thresholds or the lower thresholds? There are so many sources of thresholds, and they have all been reviewed, so which do you choose from? If the threshold is exceeded then what, and finally, in some cases there is just obvious risk. If you have DNAPL, you are going to have some risk, so what do you do in that case. Then with the sediment toxicity bioassay, there are questions of where do you collect the sediment samples, what organisms are appropriate, how long do you do the bioassay, do you do acute or do you do chronic tests and is it always necessary. Can you sometimes skip straight to the third component which is the community assessment? In terms of the community assessment, how do you choose a reference site. How do you interpret results if the upstream locations are impacted also? Sometimes you do not have all three of your components supporting each other. You have contradictions, and then what do you do? Finally questions regarding bioaccumulation, what contaminants does this refer to and at what concentrations does this refer to. So, based on all these questions and issues that have arisen, I made some revisions. The objectives of the revisions were to provide enough flexibility so that these could be applied in a more general sense to all statewide applications. It really encourages professional judgment. These are not exact science aspects at all times. It is not always black and white. It really does require professional judgment on a site specific basis and this policy is not necessarily going to be used by trained ecological risk assessors. So the policy provides specific instructions, step by step

flow charts in how to apply this risk assessment approach. There is a clear decision making process with these flow charts and it really inherently incorporates the weight of evidence approach so that you are not just relying on one component. You are looking at the whole picture. There is a better integration of the bioaccumulation risk potential. In the policy as originally issued the bioaccumulation was in there, but it just wasn't very well integrated into the overall policy.

Sediment screening – as I said there are step by step instructions with the flow chart and it explains how to compare to the lower thresholds, the TECs, and the upper thresholds, the PECs. It explains where you can get these thresholds and how the assessor has the freedom to choose which source to choose from. The revisions explain how to prioritize your location according to your hazard quotients, that basically is how badly are these exceedences observed, and it also specifies that you have to assess the total organic carbon and the grain size because that can directly indicate what sort of risk is associated with those exceedences. Finally, it specifies that you really do need the spatial distribution of the contamination. People who do risk or site characterization automatically do the spatial distribution but this really spells it out so that there is no question.

The Sediment Toxicity Analysis is based on the prioritization of the sampling from the first component, the sediment screening. It explains how to determine which organisms you use in your toxicity test. Is it a marine or a fresh water environment? Basically it spells all of that out and how long do you do this for. What are your site specific assessment end points, again, the chronic versus acute. Typically we do the 10 day bioassay but it explains when you may want to do otherwise. Furthermore, there is room for flexibility here in that sometimes the sediment bioassays are just really not feasible. It allows for substitution of other methodologies such as pore water analysis if DES approves prior to those analyses. It instructs the assessor to exclude reasons for a false negative toxicity. If you have serious exceedences from your first component and you get absolutely no toxicity, you really have to go back and say wait did I use the right organism, did I do it for the right duration. It just tells you to heed caution and then it also tells you when you can just skip this step entirely; what it means to skip this step and go straight to the community assessment and what it means for your overall assessment.

Finally, the revisions that address the community assessment are basically just in your choice of reference location and your need for a reference location. It basically has to be neither impacted by the site nor any other sources and it addresses the whole issue of local conditions.

In terms of bioaccumulation risk, it addresses which contaminants you have to consider, those with low water solubility and high lipid solubility. If you have a persistent bioaccumulative toxic contaminant according to the EPA's list, and if you have a lower threshold that is available for this that is exceeded, then you have to consider this as another risk issue.

Case Studies: Typically we apply the policy to hazardous waste sites when there has been a regulated release that has potentially impacted sediments. We have also been using it for dam removals to make sure that once the dam is removed that we are not going to be causing harm downstream. Finally in the determination of aquatic life use support for the water quality 305b reports.

Case Site: There was a particular MGP site in southwest New Hampshire where the sediment chemistry did indicate that the PAHs there posed a moderate to high risk, depending on the location, and toxicity bioassays were really not possible because the grain size made it impractical. Instead they conducted the pore water toxicity test which showed no toxicity. Because we didn't do the bioassays, we decided together with the assessor for the site that it would be appropriate to go and do the community assessment which did in fact show no impact compared to the reference site. Because there were bioaccumulative contaminants there that did exceed their lower thresholds, the fish tissue was also checked and it turned out to be okay. So there was no significant risk at the site.

We have another dam removal project in southwest New Hampshire also where the sediment chemistry indicated a moderate risk that was spatially uniform for the PAHs but there were only metals at

the impoundment not uniform downstream or upstream. We decided that the impacts to the downstream location upon the dam removal were not anticipated; therefore further evaluation was not necessary. This was based on the anticipated sediment transport and consequent contaminant transport with the dam removal; and finally bioaccumulation wasn't even an issue there because those contaminants that could bioaccumulate were not present.

Then finally we had a National Coastal Assessment (NCA) where we have the sediment chemistry, toxicity and community assessment data for various locations. So far we have performed statistical analyses using the principal component analysis of the TRIAD data and basically we are still in the process of analyzing all of that.

If you have any questions contact either Paul or myself. Now I'll refer you to Paul.

Paul – That is the policy and what it does in a nutshell. The other issue you either got early this morning by e-mail or received when you got here. The reason it was late was we just got the internal review on it and sent it over to the Attorney General's office. The issue at hand is whether, under the statutes and our regulations, DES has jurisdiction over the chemical quality of sediments. We think we do and the Business and Industry Association has raised some issues relative to that. So, we have asked the Attorney General to look at all of the information and give us some advice. I would be glad to answer any questions.

Questions: Vern – Paul does this sediment policy apply to the dredging process?

Paul – The answer is no. This applies to sediment left in place. We have a procedure for determining whether material to be dredged requires special treatment because of its toxic contaminants, but that is generally a human health issue and driven by human health risks. This does not apply to material that is to come out of the aquatic environment and go some place else.

Question: Vern – Paul if it were to be discharged on an upland source, I could understand that, if it was to be discharged back into waters of the State why in that case?

Paul – I guess the answer would be yes. I don't know that we have dealt with that. I don't know that it has been an issue. Dredging usually is quite difficult, if there is significant contamination in the material to be dredged.

Question: Vern – How many times has this been applied now. I take it once on little dam removals.

Lori - A number of times for the first component of the Triad and the bioaccumulation and we are in the process on a few sites the second and third components. There have been a couple of cases of the second and third components so far but much fewer of those.

Question: Vern – In that first part of your screening, how do you start that screening? What is the sequence, do you go out and do a historical review.

Lori – Typically for hazardous waste sites, there has been a site characterization already, and it becomes clear throughout that site characterization that sediments may have been impacted by this regulated release so then either they already have or need to get sediment samples at spatially appropriate locations and we figure out what is going on from there.

Paul – Another example that Lori mentioned was the National Coastal Assessment where that was basically an EPA EMAP initiative to do a spatially randomized sampling of estuary sediments and they did a randomized spatial distribution and then went out and collected samples. That was an effort to completely characterize the estuaries up and down the East Coast.

Question: Vern – How do you ordinarily structure the analysis for a dam removal project?

Lori – There actually is a fairly new, one page policy, an addendum to this policy, it is more a guideline of how to use this policy for dam removal. Basically you need to take a sediment sample upstream and a sediment sample downstream and two around the impoundment and this little guideline tells you exactly

what analyses you need to consider and then it refers you back to the sediment policy and okay now with that information apply the policy.

Question: Vern - If you do the sampling in the reservoir, and you find that you have coarse grain sediments, do you have to go beyond that point?

Paul – Yes, the grain size analysis is a fairly recent addition because you need that in order to be able to interpret the chemical data.

Question: Vern – I guess the reason I am raising it, most of my experience has been with dredging, and let's say dredging is taking place at the mouth of the Merrimack River or out on the outer cape where it is all sand, my recollection is that under federal regulations you don't necessarily always have to do a chemical analysis unless you have coarse grain and you are well away from a known source of pollution, then you are done as soon as you get to that step of being able to determine that it is coarse grain.

Lori – The other thing is that in the spatial distribution, there is an inherent assumption upfront that this is sediment. If it is not true sediment, you don't apply this policy. You could have solids material there, like very coarse grained wet soil that is not necessarily sediment that could be supporting benthic organisms.

Paul – You are interested in where the organisms live, the layer in which organisms live.

Lori - You can have hydric soils that are not going to support any benthic life regardless of contaminant concentrations. You may need to go through spatial distribution of your solids, describe and define what your solids are.

Paul – To make sure that we do not stray from the purpose of the policy, the purpose of the policy is to define the process for making decisions when you have chemical results that indicate the presence of toxic contaminants in sediments. That is all it does. It defines the process for making decisions. So, for example, if we have PAHs in the impoundment of a dam that we want to remove– we can use the policy to help answer the questions: should we take the dam out or not, and if so, do we have to do anything to mitigate the environmental risk of those sediments with the dam gone. It defines a process for making decisions.

Question: Allan – The state owns from high water down, so that means that all these sediments that we uncover you guys own?

Paul – The state owns the bottom of great ponds and coastal waters, and somebody else owns the bottom of everything else.

Question: Allan – I guess my question is more that you come across these sediments here and there by one means or another, how do you define or determine who has ownership of it? Who takes the lead and who pays the dollars, and who does the studies, etc.

Paul – That is not a subject that is dealt with at all in the Water Quality Standards in the rules and regulations and procedures for Water Quality Standards. It is dealt with in other places and a good deal of that is the issue that we discussed with BIA. The issue there is it often times comes down to whether or not there has been a regulated release. If there has been a regulated release, there are Waste Management Statutes that define, once you have determined who is the releaser of the regulated materials, how that process proceeds. The Water Quality Standards do not deal with that in the context of determining whether or not Water Quality Standards are met. We do have a process under the Clean Water Act for figuring out what to do when Water Quality Standards are not met and that is the classic case of a TMDL where sources are investigated, and loads are allocated to the various sources and then if there are owners of those sources, those owners are asked to mitigate somehow. Typically, if they discharge stuff, to change what they discharge so that standards will be met. This process, the Water Quality Standards process is a separate one from the Waste Management process for regulated releases.

Question: Ron Rayner – Some of these I think would be, if you use a dam for example, it could have been someone who was operating 48 years ago and has been out of the neighborhood for the last 20 years, but they are basically the ones that put the material at the bottom of the dam, or in atmospheric deposition, just trying to figure out who is responsible in light of the problem.

Paul – Atmospheric deposition is an excellent example that would be the subject of a TMDL. Mercury is an excellent example of that, and we have been talking with EPA at the regional level about doing TMDLs for mercury.

Question – Bob Fawcett – Paul can you clarify again, you stated earlier that the state owns under waterbodies.

Paul – Great ponds, natural bodies of water greater than 10 acres.

Question – Bob Fawcett – Does that mean a great pond.

Paul – Right, that is what the statute calls a great pond.

Bob – 10 acres or larger or coastal, of course estuary and all rivers, yes?

Paul – No, the bottoms of rivers are privately owned. They are not owned by the state. The state holds public trust interest in the river, but the state does not own the bottom except in a case on the Androscoggin in Berlin where we bought it.

Question: Mike Giaimo – Your policy is an internal policy that defines procedures, so is it my understanding that you would tell the abutters, now it is your responsibility to pay for tests, I guess I see a disconnect.

Paul - No, absolutely not. This policy only applies when we have data. A good example is the Connecticut River study in which we partnered with the EPA folks and we did 100 sediment sample locations for chemical quality from the Mascoma River confluence all the way to the Connecticut Lakes. That is the first step of the Triad. We did that, it cost a lot of money, and we do not have money to do the rest of the Triad. We have some places where the thresholds are exceeded, and that information goes into our data management system, and it gets classified as insufficient information to make an assessment relative to Water Quality Standards. It stays that way until we figure out how to do the next step.

Question: Ron Rayner – You stated earlier that this whole policy is really meant to define a process by which we decide whether or not there is sufficient residual chemicals in place to cause an adverse effect. Is that correct? But then the response to some questions I heard Lori say that maybe not everything will be considered as sediments, there may be times when some soil at the bottom of a river or dam impoundment, or something may not be considered as sediment. In response to another question Paul I think you stated something like for material that was to be removed from a dredging operation, this policy wouldn't be used either. There is a disconnect here. Wouldn't you have had to use this policy in the first place to make the decision that yes this material in this vicinity, in this area, is sufficiently poor that it must be dredged, it must be removed from the eco system. So this policy would have been used in the first place to make that judgment, yes?

Paul - Not necessarily. It could be, but dredging is done for a variety of reasons. Dredging is done for navigation reasons, for a variety of reasons. Testing is required before you do a dredge project and I didn't answer Vernon's question fully, but in New Hampshire you do need to do chemical testing on the proposed dredged material before you dredge it, no matter what the grain size is. But that is a different matter, the question you are asking there, when you propose to remove dredge material is where can I put the stuff. Are there restrictions on where the dredged material can be placed that are due to contaminants in the dredged material. A good example is the Cocheco River, which I think is done now, in which the answer to that questions was yes, and we spend years and years figuring out what to do with the dredge spoils.

Question: Ron – Perhaps, at least in my eyes, since this is a policy, I guess this will evolve over time as to what affect this has in terms of enforcement. I think it would be helpful if at the beginning of this document you have a section detailing applicable laws, regulations, and then you go into policy. Perhaps you could have a paragraph or two that puts in practical terms, pragmatic terms, what instances this policy is intended to prevail over, and what applications.

Paul – the answer is any application where we have information about the chemical quality to sediments and we are asked to determine whether or not Water Quality Standards (WQS) are met. This policy is intended to apply to any situation where we are asked to apply the narrative words in the WQS to a specific site where we have specific chemical quality information about the sediments.

Question: Ron – How about if we don't have specific chemical quality information?

Paul – then you cannot apply the policy because that is all it applies to.

Ron - This will not force one to go out and do all these studies and collect all this data.

Paul – Absolutely not. Not any more than having WQS for the water column, for all the waterbodies in the state places a burden on anyone to go out and sample every waterbody in the state, except on us.

Lori – I think there are other laws or policies in different arenas that dictate when you need to go out and sample the sediments. Like if you have a hazardous waste regulated release, there are rules that say when you have to go look at the contaminant levels in the sediment and from there you apply your sediment risk characterization from this policy. This policy, itself, doesn't tell you to go take those samples. It just tells you how to interpret those samples.

Question: Marjory Swope – Is the *you* in any set of circumstances anybody other than DES?

Paul – Yes, the *you* varies. If it is a hazardous waste site, if there has been a regulated release and there is a responsible party, then the *you* is the responsible party. If the question is being asked like it was in the National Coastal Assessment, do the sediments in the estuaries meet WQS, then the *you* is DES and EPA asking that question together. The same thing on the Ct. River, it was DES and EPA asking that question about the sediments in the Ct. River.

Marjory – Then for the instances in which the *you* is not DES or EPA or not some government agency, then the person with the hazardous waste release or whatever would be expected to follow this?

Paul – Yes

Marjory – Then why isn't this rules?

Paul – BIA has asked us that question and the answer is, perhaps it should be, but it is well to get some experience with something like this before going to rules. EPA in the WQS process under the Clean Water Act has something called a translator in which narrative requirements in rules or law can be further explained in a translator policy document which tells how to take those narrative requirements and apply them in a particular situation in a quantitative way. What the Sediment Policy does is it takes narrative requirements which are already in the rules, which have already gone through rule making, and tells how to apply those narrative words in a quantitative way to a particular site.

Marjory – I can see that if I were *you* that wasn't DES or wasn't a piece of government, I would want these in rules.

Paul – You might. I guess the counter argument is that before we had a policy, each program manager in the Waste Management Division, made it up on each particular site and it was made up differently whether it was a superfund site or a state hazardous waste site, or a state oil site, and we in the WQS world didn't think about it. I think that a policy like this provides a benefit to everybody because it levels the playing field. It provides us with a vehicle to explain how we make decisions. It gives those various program managers one process, and it is one that we can hand out to consultants so that they can understand it before they have to write a scope of work, in the case of a hazardous waste site, that meets the requirements of the remedial programs. It provides, I think, a benefit as policy; and we certainly, as it matures, would consider making it into rules. There are a whole variety of things that don't fit very well into the specificity of process required by the rules. As Lori mentioned there are a number of places here where we specifically want to give the risk assessor flexibility, and flexibility between DES and the risk assessor to make decisions. She has written that in specifically because we came upon situations where we needed that.

Comment: Vern Lang -I don't see what you have is done much different than what EPA has done at the federal level with respect to testing for discharge in ocean waters. The rules are fairly concise documents whereas the testing manuals are fairly elaborate guidance documents, and that is what they are. They are labeled purely as guidance documents to help with the evaluation of what is conveyed in the rules themselves. I don't see, for me, a question as to what it applies to.

Paul – If it were the overwhelming sense of this committee that we ought to drop everything and make these into rules, we would try our best, but I really hope you don't do that. We have other things that we want to do that we think would be much more value added than that.

Comment: Mike Giaimo – It sounded like Vern is saying, instead of calling it a policy call it a guidance document or a procedure or something. To be honest, representing the regulated community, I am happy that you have come to us to ask our advice and input on an internal policy. I think that shows good faith that the department has and it is very appreciated, thank you.

Paul – That is a good suggestion, Mike, that the word policy raises flags that we would just as soon not raise.

Question: Bill Beckwith – Do those flags have any practical, legal significance? If it is not in rules or statute at the federal level you call it policy or guidance. It is the same thing. From a practical standpoint, at the state level does policy really mean anything different than guidance and if so in what way?

Paul – We are specifically told that we are not supposed to have policies, we are supposed to have clear-cut rules.

Bill Beckwith – Referring to an earlier day when any given individual overseeing sediment work would make up their own approach. Arguably the intent of this is to try to normalize that so that there is a state policy that is predictable to people absent scientific information. In that sense whether you call it policy or guidance would it not have had the same intent at the state level to be what people would follow absent good reason to do different.

Marjory Swope - Policy at state level here has a bad name with legislators.

Paul - We cannot make anything that is enforceable unless it has gone through rule making process.

Question: Ronald Rayner – The question, an a and a b relative to the applicable end of this sediment policy, say a hydro plant which has been there a long time, decades, and enough sediment has accumulated on the upstream side with debris that they want to remove it for whatever reason, because of just maintenance of the structure, higher flow through the turbine, does this policy apply? They can just go ahead?

Paul – No, they have to analyze the sediment, but for a different purpose. They have to analyze the sediment so that they know what their disposal options are. If it is clean, uncontaminated sediment it can be disposed of as clean fill. If it is contaminated sediment depending upon the level of contamination, it can be disposed of as contaminated soil, and it has to go through one of the various processes for remediating contaminated soil, or as hazardous waste in which case it must go to a hazardous waste treatment and disposal facility. The sediment that would be removed is no longer habitat for benthic organisms because it is not there anymore.

Question: Allan Palmer – How about if, as part of a wetlands application for work to remove it, do you sample it to see what you have got, and you say forget it.

Paul – Yes, then it is going to stay there and be habitat and then it will apply. Again it does not trigger necessarily any further action. The information is now out there, and we know there is sediment that has a certain chemical composition.

Ron – If a municipality decides, because of tighter NPDES permit limits, decides to either increase its outfall into a mid section of a river, it needs dredging to extend the outfall or add a diffuser section on the outfall in order to get better dispersion, would it be triggered then?

Paul – Again, it depends on what you are going to do with the material dredged. If you are going to remove it from the aquatic environment, this policy is not triggered. I don't believe we allow disposal of dredged spoils in aquatic environments.

Bill Beckwith – To see what concerns you may have with them being disturbed, with chemicals, you have issues of where would it deposit and the possible effects downstream. But you would assess in the dam situation to see what kinds of controls, absent just concerns about the sediment in and of itself from a habitat standpoint, should be imposed to control, or to evaluate the possibility that you shouldn't disrupt it at all. Wouldn't that fit the situations too, or if you had dredging that would occur and the sediment would be removed in the end. To evaluate the water quality environment as a result of that, you would want to have information about its chemical quality?

Paul – Well again, if it is dredged, this policy does not come into play. If the material is removed from the aquatic environment.... **Bill** – In deciding if it is okay to dredge? If it should be disrupted. **Paul** – If

the material is to be removed from the aquatic environment, this policy doesn't apply. There is a whole different procedure that applies during a dredging operation to make sure that WQS are met outside of a defined mixing zone in which the dredging operation is taking place. Different, completely different process, doesn't apply here. Likewise there are other considerations in a dam removal, because the depositional environment is changed when the dam is removed. Again, that is not the subject of this policy; this policy does not define any process for making predictions about what is going to happen to sediment once you take the dam out. That is different.

Bill Beckwith – It is about assessing the chemical quality which is one of the concerns usually with regard to sediment when talking about moving a dam or talking about disrupting other dredging kinds of operations, sometimes it is decided it is best not to disturb it, and in other cases it will affect how you try to control the movement of sediment during the process because it will not all be cleanly removed completely from the aquatic environment during a dredging.

Paul – You are right. Those are all valid concerns and not part of this policy. They are dealt with in a structured way in the process of considering a dam removal.

Bill – Well the question is why would not this same structured process for assessing the chemical quality and then the bioavailability and so forth apply to that scenario. In that aspect what is the difference, because the other things that you say that would come into play, look at the same kind of tiered evaluation.

Paul – This is not a mechanism for making predictions. It is a mechanism for assessing an existing situation. In a dam removal you have to make predictions.

Vern Lang – Paul you have a discharge and in every case that Bill has talked about and these fellows down at the end have talked about, but if you are going to go out there and using Ron's example of putting a diffuser in, take a backhoe or any kind of a dredge, to dredge your line out into the river, and maybe you are going to temporarily stockpile it. If you are in an open, instream environment, you are going to have some stuff sloughing off and floating downstream in addition to the fact that you are temporarily stockpiling it, it is a discharge and the policy should apply. Likewise, if you have a dam, say a federal dam...

Paul – Whoa, whoa, whoa this policy does not apply to discharges. It does not apply to activities. You are absolutely right, if there is a discharge under any federal permit: any federal permit that creates a discharge is required to obtain a 401 Water Quality Certification. We place conditions on activities-dredging activities, filling activities, FERC licenses - under the auspices of the 401 program in order to place conditions on the discharge (which in some cases is a dredge operation) to make sure that WQS are maintained during construction and operation of the project. Those are the words in the federal statute. That is a different process. What you are talking about are WQS being maintained while the dredging is going on and after the dredging is complete: whatever the result of the dredging is, will WQS be obtained once the project is in operation. In the case you were talking about, that would be that the pipeline has been installed and whatever was going to be put back, has been put back, and away we go.

Vern - How about in the case of a dam removal, where you take the dam out and you have sediments that go floating downstream.

Paul - It is not a discharge.

Vern – Well why isn't it a discharge?

Paul – It doesn't meet the requirement of discharge. In accordance with basic geomorphology, rivers move sediments. Rivers move sediments faster when you take a dam out than they do when the dam is there. We have to take that into account when we are making a decision about whether or not to remove a dam. You are talking about fate and transport of the sediment material and also of the contaminants in the sediment. It's a valid thing to talk about, it is considered, but it is not a part of the consideration of sediment for the purposes of whether or not WQS are met for aquatic life use support for the sediments in a particular location.

Vern – I don't follow you, I am really struggling with this one. I just don't follow your decision tree for what it applies to and what it doesn't apply to. I am really struggling with that. It seems to me it ought to apply to any discharge.

Ron – Perhaps as a suggestion here, there seems to be two major issues on the table. One is BIA's question as to whether or not DES has legal authority; and two I go back to my original question of applicability. Some practical sense as to where this is applied to the regulated communities so that we in industry can know when to anticipate this will trigger.

Paul - I think one of the sources of confusion may be that this is a translator of narrative criteria which are a part of ambient water quality standards. And the operable word there is ambient. Ambient means it exists in the environment. It does not have to be a discharge, it does not have to be any activity whatsoever. You just go out to the environment and you take some samples and you see if ambient water quality standards are met, by a process. That is it, and that is what this does. It doesn't have anything to do with discharges. It has to do with the quality of the sediment in the ambient environment.

Vern – Let me ask one more question and then I will leave it. I'll give you an example - this happened on a federal dam in Vermont. They wanted to do some maintenance so they lowered the pool down to a dry bed and in the process a whole bunch of sediment went sliding on downstream, would this policy apply to that. To use your words ambient, it was sitting there and then would go swish downstream. Would it apply to say any of these dams, no matter who is doing it, federal government, state or private and you do some maintenance and in the course of doing normal maintenance some of this ambient sediment goes sliding down the stream.

Paul – That could result in a WQS violation downstream for a variety of reasons. If there were anything that required a Wetlands Permit in the lowering of the pool, then that would be subject to 401 review and certification. If there weren't anything that required a Wetlands Permit, then it wouldn't be; but in the event that there were lots of turbidity downstream, that would be a WQS violation and soon as we understood that there was excessive turbidity downstream in excess of 10 NTUs over background, we would take appropriate action to see how we could correct the violation. In that case the violation would be one of turbidity in the downstream reach. This policy wouldn't come into play. The policy applies to the bottom as it exists when you go sample the bottom.

Marjory Swope – So if the bottom suddenly becomes waterborne, it is not a bottom anymore, it is turbidity, is that right?

Paul – Right, and once it settles back down again, it is sediments again, but it is at a new place, the policy applies again, but it applies to the material where it landed.

Bill Beckwith – I follow what you are saying there, but I thought the questions that were being asked were related to cases where this methodology could be used or would be used to assess that ambient sediment quality for the purposes of making informed decisions about whether that sediment would be dredged, should be displaced as a result of dam removal; and that if the answer is no, why not in 1 and 2. What was the reference to dams that was already made in the presentation where it had an applicability?

Paul – This policy is one for determining whether or not ambient water quality standards are met for sediments in a particular location. That is all it does. You can use it to make decisions for instance for a dam removal; but as I said, there are lots of other factors in the decision. You can use it to ask the question are standards met in the pool of the dam that is going to be removed. You can also use it to start answering the questions are standards likely to be met in downstream sediments after the dam is removed. But this policy does not answer that.

Bill Beckwith – It is not a fate or transport but just for the purposes of assessing different applications where one would follow these procedures for the purposes of assessing chemical quality, because if there are no data, then the policy doesn't apply. But what people have said is but there are cases where you don't have data, you would want data, pending what people might want to be doing in a particular instance and would not this tiered approach be the guidance one would follow in collecting the data?

Paul – Yes.

Question: John Hodsdon – I am wondering about sediments in a marina, would you be concerned about that at some point?

Paul – Yes, and if we were, we would use this process.

Suggestion: Ron Rayner – Obviously we are going to talk about this again. It is going to come up in other meetings. I would suggest that the Department's efforts from here on forth might be to:

1. Address BIA concerns regarding legal authority; and
2. Help us all to understand better how this applies. You use the easier examples of when you have a release, a discharge, it applies.

Paul – Can we say it applies to all sediments for the purposes of evaluating WQS as they apply to sediments? It applies to all sediments, there is no sediment to which this policy does not apply.

Comment: I guess the first step is: is it causing aquatic life issues in the sediment. If it is a dam removal question, that is the next step. This information could help determine what you should do with this sediment policy. Is it going to be a problem once it becomes suspended downstream? The policy doesn't answer that question, it can help to identify the next step as far as the dam removal and the sediment issue but the policy itself is just looking at any sediment where it is and determining if it meets WQS. That is the purpose.

Paul - It doesn't matter where the sediment came from, it doesn't matter how it got there, doesn't matter where it is going, whether it is going to be dredged, whether it is going downstream, it doesn't matter.

Allan Palmer – You said if you are applying for a Wetlands permit to remove it, then the policy doesn't apply.

Paul – No, what I said was if you apply for a Wetlands permit then we have jurisdiction under Section 401 of the Clean Water Act. That is a separate process.

Comment: Allan - So the policy most likely will not be enacted.

Paul – I don't understand your question.

Allan – The one thing I thought I heard clearly was that if you are applying for a Wetlands Dredge and Fill Permit to remove the sediments then this policy was not going to be applied.

Paul – Yes, if you are doing a dredge project and material is to be removed, and it is going to become sludge or solid waste or hazardous waste, or whatever it is, this policy does not apply. Once the material is out of the water, it is not sediment anymore. You can do that by removing sediment from the water or by removing the water from the sediment. Once you remove a dam, you have a bunch of stuff that used to be sediment that isn't anymore.

Water Transfers/Antidegradation

DES Revise draft rule language proceed to rulemaking?

Approach to existing water transfers: After consultation with DES legal staff and further editing, we believe that transfers to class A waterbodies can be permitted without legislative reclassification.

Annotated text revised – by Paul

What we now have is a three page document, which covers the two subjects, containing rule making language that we think is fairly close to final. This incorporates the results of discussions from the Water Quality Standards Advisory Committee last time and the results of some internal discussions subsequent to that. The essence of those internal discussions is that the issue was: do we need to reclassify Class A

waterbodies to Class B in order to allow water transfers. We started out saying yes, it looks like we do, way back a year or two ago.

We basically worked up an opinion through the attorney general's office, ran it by in-house legal staff and it never got to the attorney general's office, but we have words that we think allow for water transfers to Class A waterbodies without legislative reclassification.

- **Paul** - *The Canobie Lake people are not here, and Bill Schroeder wanted me to know that he objects strenuously to our new words. See Attachment B.*

We feel that the words that you received in your read ahead packet provide for the possibility for water transfers to Class A waterbodies and to lakes and ponds, which were also an issue if you recall due to the nutrient standards, without legislative reclassification. Also to provide for full antidegradation review and sufficient safeguards such that the water quality as exists in Class A waterbodies and in lakes and ponds would not be negatively affected without a full social and economic justification. The way we did that in rules is by exempting water transfers from some of the provisions that specify that only naturally occurring conditions shall occur in Class A waters. Any questions?

Question: Ken Kimball – I am not quite sure I understand how this meets antidegradation standards because if I am reading this correctly you have added in 'except when due to water transfer'. That could mean that you transfer, in say turbidity as an example, you could transfer in extremely perfect Class B water into Class A and this exception would allow that to continue if it happened without being a problem with the antidegradation review.

Paul – No, no that would allow water of different turbidity than the receiving waterbody to be transferred but there would still be an antidegradation review. It would still be required.

Ken – That is not clear here though is it?

Paul – That is elsewhere in the rules. I believe it is true and if not it should be put back in. Antidegradation should always apply to water transfers.

Comment: It is 1708.12d, bottom of the second page.

Ken - It still sounds confusing because whether or not turbidity is in a Class B water that is transferred into a Class A, is that not antidegradation in the Class A water that is happening?

Paul – Yes, that would constitute a degradation of water quality in a Class A waterbody and that proposal would be subject to full antidegradation review.

Question: Vern – In 1708.12d it doesn't say full antidegradation, it says shall comply with antidegradation provisions. What is to stop someone from saying, well this is not a significant discharge therefore we aren't going to do a full antidegradation review. In the prior statement you had that language in there that every water transfer would require a full antidegradation review. It would be significant for purposes of antidegradation.

Paul – We can put that back in. You are right.

Vern – Where Ken was coming from, I had the same question. If you read these except when, except when, except when, what is the standard that applies then. I don't see that there is any standard that applies for color or turbidity. There is no standard that I can read there.

Paul – Well actually, if you read the statute, Class A waters always are required to obtain the quality of Class B unless a higher standard is specified in Class A.

Vern – So you are saying, except due to water transfers that means then you would automatically revert to Class B standards?

Paul – Right. If you read the statute, and you do have to read between the lines, that is implicit in the statute and it is also implicit, for instance, in our toxics regulations. The toxics standards are not different for Class A, they are the same as Class B.

Question: Ken Kimball - What is the purpose of the new water transfers, because all the examples that I just gave, you would have antidegradation in it? If it wasn't happening then you would not need these.

Paul – The issue in the first place was that any water that is transferred to a Class A waterbody is not natural to that waterbody and thus results in a different condition than natural.

Question: Carl Paulsen – This is or was this to address existing transfers to Class A waterbodies?

Paul – Both existing and proposed. Actually the ‘none unless naturally occurring’ is problematic anyway in Class A. What we decided to do was rather than try and fix that we would just try and create a process where transfers could be considered on their merits.

Carl – Hypothetically speaking, and I am not saying this would happen, if somebody wanted to not have to meet really high standards in a Class A waterbody, could they just stick in a transfer, have it Class B, and then be subject to different standards.

Paul – I don’t follow you.

Carl – Well let me think it through some more.

Paul - Discharges of sewage or waste are not allowed to Class A. A transfer is not a discharge of sewage or waste, it is a discharge of ambient water.

Carl – Earlier you said something, were you saying that for the purposes of the transfer, the receiving water value is considered Class B. Is that what you were saying?

Paul – No.

Question: Bill Beckwith – I think you have a problem with the language written here. At least as written, it does leave it ambiguous at least and maybe worse with regard to what a Class A ambient water quality criteria are for a number of parameters. Antidegradation aside, the base criteria that go with the Class, which can then be important for the purposes of antidegradation, determining the floor for lower water quality, etc just doesn’t exist in this language. Maybe what I heard you saying is that by statute what that really says in total is that except when there are water transfers, in which case the ambient criterion for Class B turbidity applies, Class A waters shall contain no color unless naturally occurring, but you still have the issue that now you are mixing discharge conditions with ambient conditions. Well everything is still happening, and it is a Class A water. So if you have a transfer, does that just lower the water quality criteria period or is it still somehow *as naturally occurs* plays into that. It is very ambiguous at the very least.

Question: Marjory Swope – That was basically Bill Schroeder’s objection, was it not?

Paul - I think so. I also think the exception for water transfers will work in that, for instance for color, it is not a given that more color is a degradation of WQS. Water has color.

Bill Beckwith – That is not really the question. The question is at what point is it degradation and at what point is it too much color to meet the Class. Whether or not any given color constitutes that, it really isn’t the question here. The question is, what are your criteria against which those kinds of things are judged?

Paul – Right. In practical aspects there really is no way of determining whether color in any waterbody is naturally occurring or the result of some human activity or some combination of naturally occurring and due to human activity. If it is due to a point source discharge, yes. If it is not due to a point discharge, it is hard to say.

Bill Beckwith – I don’t know, I would say a brown plume as a result of sediment impact input from agricultural runoff, for whatever would be clearly color and inconsistent with your naturally occurring color. Again that is really not the question that is being asked. The question that first is being asked is what are criteria for Class A for which those kinds of judgments could be made.

- **Comment: Wendell Berry** – I would like to take the position of the lake community relative to the amendment of Env WS 1703. 10, 11, 13 and 14. These are my words but they come from extensive conversations with a number of very capable people concerned about our lakes. See Attachment C.

Paul – Thank you Bud. I do not hear a lot of support for ‘except for water transfers’, which I think puts us back where we were in November, which is to find out whether we need Legislative reclassifications in order for transfers to occur. I would like to go back to that point, if this is all right with people; and we will take under advisement where we say *except when due to water transfer*, we will remove those, and go back to our draft of an Attorney General’s Opinion Request to see if allowing transfers requires reclassification. There are some of the words here which I think do not apply to that issue, which I would like to discuss and see if we do have some agreement.

Section 1703.11c, this is new, you will not have seen these words before, and something that we would like to do to make the turbidity standard more useful in terms of its specific application. That is to add the phrase that *no discharge shall cause turbidity to exceed upstream or background turbidity by more than 10 NTUs*. What that does is to specifically allow an inspector, or anyone with a turbidity meter, to go to a location and take an upstream and a downstream reading and apply these words specifically without having to infer what natural conditions are in order to make a judgment as to whether the standards have been violated.

Question: Anthony Zuena – In that specific instance will any mixing zone consideration be used, for example, at the transfer is essentially a transfer through what is normally an intake (certainly is an outfall in this case) through a diffuser system, to what location specific standard does that apply?

Paul – I think the answer is yes, a mixing zone could be considered, I would have to go back and read the specifics in the rules. Basically if a mixing zone is requested by an application for a discharge permit, we can consider a mixing zone and that would be granted as part of the permit. These words would mostly be used in enforcement cases for erosion control violations. In fact they are now, that is practice. It is upstream and downstream. This makes it a little clearer.

Question: Ken Kimball – The question I have is the selection of 10 NT units. If you have a system that has one NT unit and you are bring in 10 units, then that is a tenfold increase. If you have a system that has 100 NT units and you brought in 10 that is a fairly minor increase in NT units. Is there a way that you could actually follow through this slightly so you still had numbers which work well with enforcement?

Paul – I guess the answer is we could. That would be more than a housekeeping change, and we consider this a housekeeping change and we don’t propose to consider the broader issues at this point.

Ken – As written it gives certain situations you could allow a fair amount of turbidity to come in.

Bill Beckwith – Well can you? My question is how is this an addition, is it clear that this is an addition to A and B and the exception is written in there for water transfers, just read that out of there for the purpose of my question: the Class A still is to be no turbidity unless naturally occurring. Class B would still be no more than 10 above naturally occurring, and then you are saying in addition you are limiting the increase of turbidity to more than 10 NTUs in any case.

Paul – Right, the “Class A shall contain no turbidity unless naturally occurring” is the control in Class A waterbodies.

Bill – In that instance you will allow an increase in the turbidity. So does “c” have any applicability to Class A?

Paul – No, we could say that, in class B waters.

Ken - If you are putting in “c” do you still need “b”?

Paul - yes

Question: Marjory Swope – So does that mean that Class Bs can exceed by 20 NTUs. Suppose you have well more than 10 and “b” and then you add another 10 on “c”, is that what you mean?

Paul – No, in order to make it work, “b” and “c” have to work together. You start with naturally occurring conditions at any point in the stream, it can’t be 10 NTUs above naturally occurring conditions and you start with immediate upstream condition to a discharge.

Question: Ken Kimball – Why not then have “c” read that no discharge shall cause turbidity to exceed the classification standards and “c” upstream and background turbidity by 10 NTUs. Then it would be

clear that “a” and “b” are already in existence if no discharge shall cause turbidity to exceed Class A or Class B standards for turbidity and exceed upstream and background turbidity by 10 NTUs.

Paul – I see what you are getting at. Why don’t we take that under advisement and work it over. What we are talking about is that basically we have two conditions. One is for Class A in which you cannot exceed background at all. That is true cumulatively and also for any specific discharge. The same for Class B only it is 10 NTUs. Okay we will work that over.

Paul – Any further discussion on that? Moving down to 1703.14d, which says there shall be no new or increased point source discharge of treated or untreated industrial waste or sewage containing phosphorus into lakes or ponds or tributaries of lakes or ponds. That augments the previous words which said there shall be no new or increased discharge of phosphorus into lakes or ponds.

Comment: Marjory Swope – And addresses that great go around we had about retention basins.

Paul – Right and non point sources and so on. The intent here is to allow some nonpoint sources that discharge phosphorus in watersheds of lakes or ponds, but to explicitly not allow any point sources of industrial waste or sewage. You have to go back to the rules and the language in the statute to get definitions there. Industrial waste or sewage basically are all the categories of discharges that would receive permits. That is not true either. There is also stormwater. You wouldn’t be able to get an NPDES permit for new point source or an increase if you have one already.

Question: Vern Lang – Why are you intending to change this from all sources to just point sources? What is the reason for permitting nonpoint sources?

Paul – Well mostly because we don’t permit nonpoint sources and we don’t anticipate that we would change that.

Question: Marjory Swope – At the last meeting there was a lot of discussion about what was intended in storm retention ponds, and what have you, were discussed at length.

Paul – We think the intent of the rules was to specifically prohibit new point source, waste discharges that would cause eutrophication. There was never any intent in the rules to limit development in the watersheds of lakes or ponds for the purpose of limiting eutrophication. That might be a very good thing to do, don’t get me wrong, but we don’t think that was ever the intent.

Question: Ron Rayner – In the way this is worded now, this exempts stormwater. Stormwater is out of the picture all together right?

Paul – That is correct. Any land use change that would increase phosphorus.

Comment: Bill Beckwith – Whoa wait, not out of the picture with regard to your total prohibition, but you have a narrative standard that would imply that at some point maybe something is too much be it nonpoint or point source, and that could restrict activity.

Paul – Yes, we certainly have that Class A words which says there shall be no phosphorus or nitrogen unless naturally occurring. I think “d” goes hand-in-hand with “e” which says there shall be no new or increased discharges containing phosphorus, nitrogen to lakes or ponds or tributaries to lakes or ponds that would contribute to cultural eutrophication or growth of weeds or algae in such lakes or ponds. So there is a higher standard for lakes or ponds. You cannot have any discharges, doesn’t matter what kind that contribute to cultural eutrophication.

Question: Allan Palmer – So then doesn’t that create the problem we spoke of at length last meeting, that if you are doing a land clearing operation, you are going to have runoff coming down into the tributaries that go to lakes bring phosphorus and being able to shut down those kinds of operations based upon that criteria?

Paul – Yes, and Bob what was our ideas for implementing the words “cultural eutrophication”?

Bob Estabrook – It was that they had to use Best Management Practices that were installed properly and were working properly, or it would be considered to contribute to cultural eutrophication.

Question: Carl Paulsen – Does that clarification of cultural eutrophication need to be in the definition?

Paul - No, I think we want to try that out. I think we want to see if it works. In any case, it would involve a lot more discussion before putting it in the rules.

Question: Allan Palmer – Detailed somewhere else, how do you define contained phosphorus or not contained phosphorus or is that just considered what the TMDL would be, is anything over the detection considered containing phosphorus?

Paul – No, and we are working on, as directed by EPA, numerical nutrient standards for various waterbodies. As you may not know, we had a numerical standard for phosphorus (**ed. note:** standard was for chlorophyll) for lakes in our last 2002 assessment which was 25 ppb, and based on further analysis that would be 15 ppb this time. There is a big difference between contributing to cultural eutrophication and violating the standard. I think the intent of the rules was that there would be a more stringent threshold for lakes and ponds that don't violate the standard. What we are trying to do is figure out how we implement that more stringent threshold. There will be a tighter numerical standard this time for lakes and ponds for total phosphorus concentration (**ed. note:** standard is for chlorophyll) in the waterbody.

Question: Allan Palmer – Tributaries, can you find a definition of that? Were we talking about a ¼ of a mile or something?

Paul – That is the watershed basically. Tributaries include all streams in the watershed, to the outlet of the pond.

Question: Wendell Berry – In reference to (d) is there any reason you cannot use the words including nonpoint source in (e) since we are talking about nonpoint source in (e).

Paul – We could do that.

Wendell – We would like to see that. I suggest including (e) so that it is specified in the words.

Question: Vern Lang – On (d) in your latest 305 report, do you have any lakes or ponds that are impaired for nutrients because of a point source discharge, industrial waste or sewage?

Comment: Bob Estabrook - Pearly Lake in Rindge has a municipal treatment or a package plant at the Franklin Pierce College that discharges in the upstream area and the lake chlorophyll is higher than the standard. We haven't done the TMDL to say that is the source, but that is the only point source. And York Pond in Berlin has a fish hatchery discharge.

Vern: Any others besides those two?

Bob Estabrook - No.

Question: Ron Rayner – Increased discharge, I assume that means mass, mass basis, mass loading.

Paul – Yes, probably.

Ron Rayner - That is important. When you get into negotiations about an industry wanting to increase its discharges, flow may go up but a concentration of phosphorus goes down, we maintain same mass.

Paul – As you probably know, Bob just mentioned the two discharges to lakes or ponds. We don't have any others and we don't want any others.

Ron Rayner – I understand that, I am glad you enumerated, I would have guessed that there is more than two. Hypothetically, let's say American Tissue, unlikely but hopefully things turn around, 5 years from now they want to expand the plant. They want to increase their discharge into the Androscoggin; wouldn't this preclude them from doing that?

Paul – No, it doesn't discharge to a lake or pond. Impoundments are not lakes. We are going to talk about that if we don't run out of time.

Marjory Swope – That is the next topic.

Ron Rayner – Considering that concept in mind, those few remaining industries left in state with an existing discharge, they wouldn't be allowed to increase it?

Paul – No, neither on a concentration basis nor a mass loading basis.

Ron – Well now before you just said mass. Now I am hearing both. They should be allowed to increase concentrations if mass stayed the same.

Paul – Yes, I hear what you are saying, and I think if it came up, we would work on that in the context of the details. Generally you are talking about a load being integrated over an annual period or something like that. In which case, mass would be the driving force.

1708.12 Paul – Let's keep going to 1708.12 and I don't believe we added anything in our internal discussions other than what was talked about in the committee meeting last time. So I would hope that these words are okay? Basically the words are intended to say no harm to either receiving water or to source water as a result of the transfer.

Comment: Wendell Berry – I can't conceive of being able to make that determination.

Paul – That is the process that would be fully vetted in a public forum in the antidegradation review. That is specifically what antidegradation review would be for.

Question: Ron Rayner - Paragraph b, Paul, I would suggest that waste water now it is very black and white. If the source water contains any species that would adversely affect the receiving water, you cannot do it. What if the applicant chose to add appropriate safeguards, filter the water, or something. So, my suggestion is I understand what is intended, but you should add there language such that it makes it more flexible, unless appropriate safeguards are put in place.

Paul – How about after treatment, or words to that effect?

Ron – Words to that effect, good, you give the person that wants to do this the option of wait a minute we can mitigate that potential harm.

➤ **Marjory** – **So, after treatment is going to be addressed.**

Paul – That was the intent, for instance Salem which has engineering controls for pump stations.

Wendell – The other issue that I have is that this is not a snap shot process, it is a continuum process. So how do you go about dealing with the continuum? One way might be to put in frequencies where that has to be demonstrated.

Paul - Permits are renewed every 5 years.

Wendell – That is a long time.

Paul – Actually, I think there are provisions to reopen permits for cause during its life.

Vern Lang – Paul, how would you ensure that you could filter out viruses and things of that nature that are very, very small? You might be able to screen out turtles or something like that, that are large and you can see and catch, but when you get down to microscopic in nature, it seems like that is just opening up the barn door and letting the horse out and smiling about it. I just don't think it ought to be allowed. This is going to be a difficult enough analysis as it is, you show me all this on the antidegradation test, and you don't have any language in here that says what sort of study protocols you have to go through to identify what all the organisms are in both waters. There are a great many details that are completely lacking here, and then you want to go and put in some of this wishy washy language. We shouldn't be doing that it should be made stronger instead of weaker in my view.

Comment: Marjory Swope – Well aren't there ways of treating drinking water and so couldn't you do that if you were worried.

Vern – If you are going to go to that extreme of treating the water.

Marjory Swope – If someone wanted to pay all that money to do that, why not let them.

Tony Zuena – Salem is not here so I am probably going out on limb by saying what I am going to say, but it just seems like this entire meeting turned on a dime. After your staff spent three months coming up with this draft which in principal was where this committee told you to go on Nov 18th, there was a very eloquent statement, surprise among all, fifteen minutes ago and I think personally it is quite unfair. I would like a copy of that distributed to the full committee and keep this meeting record open for an

agreed upon time so that an opposing point of view can be expressed because I don't understand what just happened here. You came very close to proposing what was agreed to in concept three months ago and now I am hearing that you are going back to square one on the whole issue of B to A which you expressed an opinion at the beginning of the meeting and in the meeting minutes that was resolved. So, where are we, are we going on for another 2 years with issue? Meanwhile communities are planning to avoid a disaster and I see us getting no closer for communities to avoid such a disaster.

Comment: Carl Paulsen – I would like to address that from the Rivers' Council perspective and that is that I certainly never signed off on a water transfer proposal back in November. I have been keeping somewhat quiet on it because my hope has been that we could come up with some sort of solution that we would all agree to. I wasn't going to throw out that I am opposed to this from the start. So far, I have huge concerns about the transfer proposal. Again, my intentions have been to try and work along through this, but I would agree with the Lakes Association. I think that that whole exception was not at all what I wanted to see from DES and it became clear to me that that seemed to signify a major policy shift in DES which, suddenly at this meeting, I didn't feel comfortable with at all. I think that language was a major shift. So today we have a major shift back saying, whoa wait a minute that is not what any of us were anticipating. Basically, I don't yet support this, and I hope that my silence has not been construed to be support, because I certainly have not waived my right to waive in opposition to any of this up until this point.

Paul – Well I think there are two issues. There is the issue of can you transfer water to a Class A waterbody, with the law and the rules the way they are. And we kind of proposed to work around it by making an exception to it. After saying we were going to take it to the AG's Office. Where we are now is we are going to go back and take it to the AG's Office and depending on their answer, either there will be legislative action required or not. I think the other issue is the concern for the adequate constraints on transfers. DES's goal here is to provide a reasonable process for transfers to be considered that includes existing transfers, most of which are public water supplies, that includes transfers for the purposes of instream flow protection. As we discussed, we actively talked about in the concept stage a couple of iterations ago in the rules in which major water users would be required to provide their own storage that would necessitate water transfers and one of their big issues was, "we don't want to dig new holes in the ground and society probably doesn't want us to, let us look at what is already there in the watershed and see what we can do to manage that". One of the proposals for managing would be water transfers to existing waterbodies during periods of surplus so that water could to be used during times of low flow. So, we have a couple of purposes here but in any case the goal is to provide a reasonable process for considering water transfers. This body could say we don't want to consider water transfers. Okay, but that would not be DES's recommendation. DES's recommendation I think would be that water transfers are part of a much larger process for management of the water resource and that we need a process to consider them.

Wendell Berry – Why didn't we address ourselves to these initial ones. The issues that we are looking at under 1708.12 are on-going issues now. They are a study platform to see what is taking place. It is not speculative; it is going on as we speak. So it is done, the horse is out of the barn, let us deal with those issues, and based on their merit, if it is appropriate to it, and the case is made, let us get on with it and allow it to happen. That is not a problem. Our constituents can see that. What we don't want to do is then go and build something around these that compromises how we might do it if we were starting from scratch as far as future is concerned. I do understand that there are different issues here. What we are trying to do is grasp something that deals with the past decisions and future decision and our suggestion is that we are on dangerous ground doing that. Why does it have to be done that way?

Paul – Bud, I haven't thought about it a lot recently but I think the issue of grandfathering existing water transfers is non viable. I don't believe that you could grandfather (perhaps the legislature could) a transfer that violates water quality standards. You couldn't do that.

Wendell – If you have an existing transfer Under 1708.12 that it is already violating water quality standards, you have got to shut it down, haven't you?

Paul – Yes

Marjory Swope - This is supposed to apply to all existing or future water transfers?

Paul – Right and we could do what Bud suggests, we could create a separate process for existing water transfers. I am not sure that is a good idea. Ambient water quality standards are supposed to be exactly that, they apply to the waterbodies of the state no matter who is discharging what into them. No matter whether it is point sources or non-point sources or atmospheric deposition or whatever, ambient water quality standards ask the question “is the water quality suitable for the designated uses that we have”.

Wendell – Is that determination been made by the state for the existing transfers?

Paul – You will have to go look at 305b report. We do have a process for assessing those. I am not sure whether we have or not. Yes, we can do that if we wanted to. Bob Estabrook may know - he does the lake assessments.

Bob Estabrook - Penacook Lake in Concord is now not meeting water quality standards as a result of the 2004 assessment, and that is because they needed to treat the water with copper sulfate. Canobie Lake and Bowers and Harris Ponds – part of the Pennichuck Water Works - are also on the 303d list for the same reason. The 305b assessment criteria says if the source water has to be treated beyond normal conventional treatment, and treating with copper sulfate is considered beyond the normal treatment, then it isn't meeting water quality as a drinking water supply. We haven't shut Concord down.

Paul – Back to Vern's question does biological compatibility go right down to the smallest microorganisms, and I think the answer is yes, but we would not generally test, for instance, for viruses. We do have standard biological tests that we run for organisms in waters and we would probably use those.

Question: Vern – So we are going to regulate and we are not.

Paul – The antidegradation process is intended to be a fairly comprehensive process and there are no circumstances under which you would test waters, receiving waters, source waters and ambient waters of any kind for all conceivable parameters in order to make a determination. That would be the subject of the antidegradation review and there would be studies and analyses that would be done as part of that. This is another case like the sediment policy of where we have a narrative standard and we would have to make up a number of procedures in order to apply that standard to a specific situation.

Vern – It seems like that would be a very uncertain process for all sides to look at, I think, people who are opposing transfers into a lake or pond as well as for the applicant proposing the transfer.

Paul – Using Canobie Lake as the example, where we had fairly intense discussions about fairly well defined parameters; I think we were able to do that. So I think the discussion would be similar as we go forward with words like this.

Marjory – Does Salem have a permit?

Paul – No, Salem would like to get one.

Marjory – Salem would like to have a permit, still would like to.

Comment – Is Concord seeking one?

Marjory – Concord is hiding out.

Paul – All of the existing water transfers are basically doing nothing until they get further guidance from us. We have promised them that when we figure out what that is we will go talk to them.

Vern – One more question, using your example of Salem, how public has that process been made? You say you have been having discussions with Salem, but who else has been involved, has the public generally been involved in that discussion?

Paul – Oh yes, we have had newspaper headlines.

Vern – But with respect to the antidegradation questions?

Paul - They have not been asked yet. They have not been asked yet in the structured form of an antidegradation review process, and they would be in the process of deciding whether or not a permit for Salem would be issued.

Vern – I guess a better way of saying it is this: in this uncertain, in what I consider to be a fairly complicated process, will it be laid out to the public for a 30 day comment period for them to react to, as opposed to what would be a long invite to participate in discussions for 6 months to a year to get to the meat of the discussion and having it kicked around.

Paul – The answer is yes, antidegradation reviews are a public process.

Vern – It is public, but how public that is what I am trying to get to. It is one thing if you have it sprung on you and you gave them 30 days to comment on it. It is another thing if you have been involved with

the development of the antidegradation review for say some period of months before it is put out for public review. It is sort of the same issue, but you are taking it easy. These comments here and given to someone who has not been involved with the process at all, versus handing it to somebody in this room here who has been part of the discussion for several months or all year would illicit a different response.

Paul – The short answer is I don't know because we have not done it yet. The rules provide for a process here. It is a public process.

Marjory Swope – Well is someone suggesting that these are more for the turtles and less for viruses?

Vern - They all could be dangerous.

Marjory – Well I understand that. But what I didn't understand if people had suggestions for fixing what they perceive to be the problems here which are pretty difficult to ensure that you don't transfer in anything harmful.

Carl - It seems to me it ought to be as broad as possible even if DES has no intention of looking at viruses or anything like that. I would certainly not suggest limiting it to turtles or something on that line.

Marjory Swope - I wasn't actually thinking of turtles.

Carl – My suggestion being and I certainly would think that there were some organisms in the future that needed to be looked at or was identified as a concern; I would not want the language to prevent that.

Drew Serell – You are not suggesting that it should meet drinking water standards to be transferred into something else which doesn't meet drinking water standards and needs to be treated first. Is that correct?

Carl – No, I am not suggesting that you have to treat it to drinking water standards to put it into something that doesn't meet drinking water standards, No.

Donna – In all practicality, I am not sure you can test for everything there ever could be. We can list things out here but the reality is even if you say we are going to test for viruses or we are going to test for this, you are not testing for everything there could be, so no matter how specific you make it, you are going to miss something. There is going to be some unknown, un-quantified thing that you are going to miss. I think leaving it relatively unspecific is not a bad thing.

Marjory – Okay, next page.

Dynamic Modeling and Flow-based Permits – Paul Currier

DES revised draft rule language – proceed to rulemaking?

Paul – That moves us on to the next subject **1705.02 new title Application of Criteria in Establishing Discharge Permit Limits**. I believe this more or less included what we talked about last time.

Ken Kimball- signing off at 3:30.

Donna – Paul, before we go too far, you mentioned impoundments and then you laughed. Is there intent to discuss impoundments at some point later on as far as this phosphorus and nitrogen goes?

Paul – Yes, I was going to give it just a brief follow up to our discussion on waterbody definitions.

Marjory – That was supposed to happen 15 minutes ago.

Paul – If we can look at these words quickly and decide if they are okay.

Comment: On the prior drafts, this section I think spoke specifically of toxic substances.

Paul – Right, and it is somewhat broader than that, it deals with dissolved oxygen and there was one other place where it deals with something other than toxics. I think the section that we have added, section (e) is also not specific to toxics. Basically the intent was to not limit this section to toxics.

Marjory - In (e) it says to meet the requirements of (a) and (b) both of which refer to toxics.

Paul – Right.

Marjory – It seems like you are only limiting to toxics.

Allan Palmer – This section is specific to establishing discharge permit limits for toxics.

Paul – I guess except for what is now (d) where we talk about dissolved oxygen.

Allan – So, can we put that back in the title block so no confusion down the road?

Paul – I think so. **Application for criteria for toxic substances, and we will decide what to do with the dissolved oxygen.**

Allan – Is there a reason that is in there? It just seems to jump out and is kind of odd.

Paul - The old words did not specify so we may be able to just take out the words “and dissolved oxygen” and leave that unspecified.

Allan - I had those words crossed out at last meeting. I am not sure if I just did it on my own thinking or it was something that was brought up at the meeting.

Paul – We may have flip-flopped on that between the last meeting and now.

Vern Lang – Was there a specific project where you would have had a DO issue in tidal waters?

Paul – Yes, all the tidal waters.

Vern – Would there be an issue where you have a discharge that is not meeting the standards or something like that.

Paul – Not that I am aware of but we do have a number of tidal discharges.

Donna – Is it your intent to allow the creation of permits that have different numerical standards at different river conditions or is it your intent that coming out of the dynamic model you would still have one generic standard.

Paul – No, different numerical standards at different river conditions.

Donna – That is what I thought we discussed at the last meeting, but I didn’t know if a dynamic model would necessarily give you that.

Bill – It will not.

Paul – I think we spent a lot of time discussing what a dynamic model is and I think if you stick to a dynamic modeling method is one in which discharge flow, discharge pollutant concentrations, and receiving water flow and receiving water pollutant concentrations, may vary with time, you can model scenarios in which discharge flow and discharge concentrations vary with receiving water flow and concentration.

Andrew Serell – I think that the way you defined dynamic modeling, you are correct in that statement. I guess my only concern and it goes back to the statements made at the last meeting, if you look up dynamic modeling in EPA guidance document, it talks about more specifically taking a flow data and pH data, etc. and throw into a model and getting out one limit, which is a little different than what Donna just asked and what you just answered. You defined dynamic modeling here broader than how it is talked about in the EPA guidance document. You have defined it in a way that really any time you vary flow to the permit limit, you are doing dynamic modeling. I want to pass out a hypothetical just to make sure that my understanding is right on how this is supposed to work, because I think it will help crystallize the issue and I don’t mean...

Paul – We did talk about that specific thing internally and decided that the definition would allow for it, but we do want to be clear on it.

Andrew – What I have tried to do here is outline how I think this would work in a case like Jaffrey, but that is just one example, where you can look at different flow scenarios. The river 7Q10 flow is 20 cfs and the plant design flow is 30 cfs. So in the normal steady state modeling that we use today to calculate permit limits, you would calculate the dilution by adding the river flow and plant flow, dividing it by the plant flow and multiplying it by .9 that would give you your dilution, which is pretty much what I have outlined there. So under a hypothetical the normal dilution calculation would be out of the 7Q10 river flow to the design flow 50 divided by $30 \times .9$ and you would get a dilution calculation of 1.5 and then you would multiple that by the effluent of the water quality standard to determine the allowable effluent. Under what Jaffrey and other towns might be able to do is control their plant flow when river flows get below a certain level because of this correlation between plant flow and stream flow. For example, if a municipality said look we have controls where we control our plant flows, so whenever river

flows below 30 cfs, which is higher than the 7Q10, we are not going to let our plant discharge more than 25 cfs. So there you have two different dilution calculations under what I call the common flow situation which is everything but a low flow situation. You still have the plant flow of 30 cfs, but now you use the river flow of 30 cfs because you are saying anytime it is below 30 cfs, we are going to do something different. So there you would have a dilution calculation of $30 + 30 \text{ over } 30 \text{ times } .9$ or a dilution of 1.8. Under a low flow situation, you would go back to your river 7Q10 flow of 20 and say but anytime the river flows below 30 our plant is not going to be above 25 cfs. So then you are river 7Q10 of 20 to the plant flow of 25 dividing by 25 multiplying by .9 and you get a dilution of 1.62. So if you calculated permit limits under that scenario, you would get a kind of a common flow situation permit limits based on a dilution of 1.8 and a low flow permit limits based on a dilution of 1.62. That is how I see simplistically this working for a situation like Jaffrey or other situations where you are varying permit limits based on flow scenarios. I think under the way you have defined dynamic modeling, that is designed to allow this, but as I said, it is not what EPA outlines in its guidance document as dynamic modeling. One could argue that is really kind of two steady state models designed to meld two permit limits but as long as the understanding is that the way you define dynamic modeling is acceptable to allow this, then as long as we all understand that and I guess this language is fine and makes sense. It makes it sense to see it in black and white terms so that we can all address our understanding of it.

Paul – Maybe we could find some alternative word to dynamic such as time dependent or something like that.

Bill – Under your scenario, whatever you call it, but what you clearly intend to allow, want to allow, how are you assessing the duration and frequency issues of (a) and (b)?

Paul – That is up to the modeler, they have to be assessed.

Bill – Well they are not assessed in this example. They are never assessed, they could be assessed potentially, but they hardly ever are assessed in practice when in fact what you are doing is a bunch of tiered steady state analyses, not dynamic analyses at all.

Paul – The scenarios that we had talked about, where for instance in Jaffrey, where they have sufficient storage that they can within broad limits control their discharge volume, is that you could actually design a permit where the acute or chronic criteria were not exceeded at all.

Bill – How are you assessing whether that is the case?

Paul – By using the model; the output of the model has to be concentration and duration.

Bill - No steady state analysis I have seen in the region concerns itself with that.

Paul – That is right, because we allow steady state analysis to use 7Q10.

Bill – And even in that instance, we really don't know and there is analysis to show in EPA guidance that it doesn't always happen that the duration of frequency component is satisfied. You are saying here, as is appropriate, they are to be.

Paul – It has to be, the rules say so.

Bill – And the way you presume that is done is by default applying at appropriate steady state design flows, an appropriate steady state design flow, one for the acute and one for the chronic. Here where you are doing more than one steady state analysis, on top of each other, what method will you use in addition to that steady state analysis to assess the cumulative probability that those duration and frequency components will be satisfied?

Paul – That criterion has to be met according to the rules. We will discuss with who is doing the work a model whose output will meet those criteria.

Bill – A model whose output is to meet that, would be a real dynamic model as has been pointed out that this isn't.

Paul – I don't think so. I think you can do a series of steady state models in which you can make assumptions about the concentration and volume of discharge such that you can say the acute or chronic criteria for concentration frequency will never be exceeded.

Bill - Then the question that I am asking is what is that procedure for doing that?

Paul – That is not specified in the rules, is the answer.

Bill – And do you have an idea where it is specified?

Paul – No, not a very good one. But yes, it is possible to do. As I have just said, we have done it, you can do it.

Bill - You haven't shown that mathematically, I challenge you to show it. Any state in the region, EPA in writing its permits, has done the statistical analysis of whether a steady state modeling effort actually satisfies in reality the duration agreements. As you compound it where it becomes really an issue is when you start doing more than one, compounded on top of each other, you are compounding the deficiency of not having accessed that.

Paul – I think that it is possible to do, and I think this change in the rules will allow it.

John Hodsdon – Am I right in assuming that you are really not doing any testing of the acute aquatic life but have done that before and are taking the results from those tests in the amounts and concentrations and flow to be used in each one of these so you have criteria for each toxic substance that you have got, you are looking at each one of them, not testing the aquatic life but testing what the concentrations are based on some previous studies that have been done on each one

Paul - EPA does or contracts for the studies, publishes them and we adopt the EPA criteria based on those studies.

Vern – I have a question for Drew. I am trying to understand your calculations. Am I to assume that the results of this analysis that you are doing here would be to increase the mass loading of this discharge. In both cases where you have increasing the dilution from 1.5 to 1.6 to 1.8, and the end result would be that you would increase the mass loading.

Drew – Not necessarily to increase it from where it is now, because you would always have the anti-backsliding and antidegradation requirements. So if you are already meeting a permit limit of .3 in your current permit that is developed the old way, I think you have to have backsliding to prevent you from going and discharging more. It does potentially allow you, for example if you are about to discharge a pollutant that you had never discharged before then this calculation would allow you to discharge a higher concentration of that pollutant than you would using an old steady state model. But by definition it would still meet water quality standards.

Vern – I guess the next question would be where is the upper limit here? If you keep increasing the flow it seems like you can keep discharging greater and greater mass loading so long as you don't exceed the instream water quality standards.

Drew – When we said keep increasing the flow, this is all governed by the flow in the receiving water. I know there are prohibitions on we can't just throw more clean water into a river and mix it with our dirty water to allow more loading. You cannot do that. So in essence you cannot control the flow of the receiving stream, you cannot add more flow to the receiving stream river to allow you to discharge more toxics into the river. As a practical matter, Concord discharges to the Merrimack River, certainly is permitted today to discharge higher concentrations of pollutants than for Keene discharging to the Ashuelot River, which is a low flow river. By definition, the way things work today, is that the higher the flow in the receiving water, the higher concentrations of certain toxics those municipalities can discharge.

Vern – Isn't that the net result of this process? I understand that nature flows in rivers change throughout the aquatic cycle, and as they increase it seems like one of offshoots of this process would be to allow a permit to be requested to match your mass loading.

Drew - If you are addressing a new pollutant then yes.

Bill – Just a clarification on the antidegradation, depending on what the state's decision is on an antidegradation review, the water quality base limits is when this would come into play. The flow of the river, dilution, is irrelevant for secondary treatment or other technology requirements we have. Where it is a water quality based limit, you can backslide if the antidegradation is satisfied, so in an antidegradation review it is decided that a lowering of water quality, hence a higher mass, is okay. You can backslide. So this could result, depending on the antidegradation decision in more pollution being discharged. The question is whether it could allow more discharge by making this rule change and the answer is yes. It doesn't just help accommodate necessarily existing loads.

Paul – That is an important point, that the idea here is to allow flexibility in modeling approach so that we can make the determination of whether or not WQS are met independent of the determination as to whether or not the antidegradation criteria are met. WQS are concentration standards. Antidegradation criteria can be either one, concentration standards or mass loading, and those are two separate issues and our desire is to make sure that they are dealt with as two separate issues. That we have a quantitative process that is as flexible as it can be for modeling the projected in-stream concentrations in order to determine whether WQS would be met by a proposed discharge permit.

Vern – To pick up on Bill's point where he is talking about antidegradation satisfied in a backsliding that will allow for this increased discharge. It seems like that would be the net result of almost all of these reviews particularly if you are looking at a discharge that doesn't contribute the significant standard in antidegradation. It is only going to be using less than your 20% of the remaining capacity and it would escape the antidegradation review all together and it wouldn't allow for this incremental increase in mass loading occurring without any kind of antidegradation review. So I mean if this goes forward then, this is an automatic allowance for incremental increases so long as they don't trigger the full antidegradation review. If it doesn't trigger the full review, it gets no review.

Paul – The intent here would be to have full review.

Vern – Then that ought to be specified here.

Paul – This doesn't deal with antidegradation, this deals with answering the question whether or not the concentrations instream meet water quality standards.

Vern – Okay, but if that is the case, and if you say that it ought to have full antidegradation review, it needs to be specified somewhere Paul.

Paul – It is, in the antidegradation section.

Vern – Then you need to have a provision here that modifies the antidegradation section of the rules to say that wherever this dynamic modeling takes place, then all of these discharges will be reviewed as significant discharges for purpose of antidegradation review.

Paul – I think if you have a water quality limited section for toxics, you can make the argument that the full assets of the stream are being used by the discharge.

Comment: You would be well above the 20% in each of these incidents so it will trigger antidegradation review.

Vern – Well I would be much more comfortable with it, if there is a process that would determine the outcome in every case, (**ed. note** “as to whether or not as full antidegradation review will be conducted”) there wouldn't be any discretionary judgments down the road when we are all gone, somebody else who has not been involved in it, picks it up and has to process it.

Paul – A valid concern and the place to change words would perhaps be in the antidegradation review section.

Bill – You have a lot of provisions currently that provide full antidegradation review even if less than 20% of stream assets are utilized.

Paul – Yes, I think the 20% would not be an issue here. I think it would trigger in all of these cases.

Marjory Swope - Would it not be covered by increased in loading to a waterbody under the proposal associated with existing activities which is antidegradation shall apply to.

Paul – It is not crystal clear language.

Marjory – You had it on the previous section, you had added it. So why not just sling it in here?

Bill - It should be clear in antidegradation implementation procedure where antidegradation review applies. If you start, you get into drafting issues here, you start putting antidegradation specifically in each line of text of the other portions of the regulation, and then you start creating ambiguity as to where it doesn't appear. Antidegradation was intended to apply even though you might read from the implementation procedure and it has this broad and encompassing applicability the way it should. That is problem with looking at this stuff piece meal as you talk about specific issues. I am as concerned as anybody that antidegradation applies where it should apply but I am not sure that every place where you would otherwise presume from reading the antidegradation section, that antidegradation would be applicable that we then need to go back and add it in.

Marjory – My question was that I was reading from applicability of antidegradation asking “does this apply?”

Bill – Antidegradation applies but then as you go through deeper into the implementation procedure, assessing degradation at high quality water, they distinguish between significant and insignificant degradation and less than 20% of the remaining assets gets kicked out before review at that point unless they override that based on one of the numerous factors that would be used for case by case.

Paul – **Let us look at that and report back.** I think that in cases like Jaffrey where we are talking about a water quality limited segment already due to primarily one discharge, I think there is no question, but let us clarify that.

Andrew – To take my hypothetical one step further, would the department also regard dynamic modeling as addressing a similar situation, where the plant wasn't in control of its flow but the plant was to supply data, for example, during a wet weather period, here is the data concerning our plant flow and river flow during a dry weather period, here is the data concerning our plant flow and river flow and potentially assuming that the frequency and duration could be met in a model, developing different permits for each of those scenarios?.....

Paul – Yes

Neil Cheseldine – I think at the last meeting the same issue came up from the reading of what you have written here, whether or not this would cover for multiple or tiered flow limits, and the answer then was yes both times. So the interpretation is there, but I think, if you are not there to interpret it, next time will it be the same interpretation from what is written, does it need to be clarified in these more so, as to what would be allowed under these regulations.

Paul – I think the preferred way would be to **do something not in the rules but in some additional implementation areas. We can do that.**

Marjory – Have we said everything we wanted to say on this piece. The duty of the Chairman is to get you through on time. I have failed to do this, it is now 4:05 and we arrived at 3:20 on the agenda

- **Paul** – **It looks like we may want to change the word dynamic to something else. We want to take out dissolved oxygen and we may want to add for toxic substances in the title.**

Waterbody Definitions

Overview of NHD, Assessment Units and the Proposed NH Waterbody Catalog

Paul – Anybody that wants to leave or needs to leave is welcome to do so, the waterbody definition was put together quickly by me, but it is intended to be a quick, informal, presentation on what some of the issues are and why we cannot just make up definitions quick and publish them.

We are in the process and in the early stages of developing a statewide waterbody catalog which we hope will be useful both to us and to lots of other folks. It will use the national hydrography dataset as its base and, I will tell you more about that in a minute, to catalog all waterbodies in NH and that is all of them. We used a first cut, very rough cut in publishing our 2002 305b report, we used the 1 to 100,000 NHD coverage which has been available for awhile. No wetlands in it at all, lots of inaccuracies. Rivers don't go in the right place, some rivers go in circles, but it works in general. The second version is under development at 1 to 24,000 the coverage is being developed by various folks, UNH, DES and the states surrounding us with whom we share watersheds are working on it with us. The second version will have concise waterbody definitions. I was asked this question just to make clear we are not tinkering with what is a waterbody. That is covered in the definition in our WQS that is not going to change, surface waters of the state include everything that is defined in the state statute and everything defined in the federal statute. There are some minor differences there, but if it is in either one, it is a waterbody. We settled on 6 waterbody types for our 2002 assessment and we think we are going to stick with these 6. **Oceans** are pretty well nailed down. You draw chords from headland to headland and everything seaward of those chords is ocean and we get jurisdiction out to 3 miles and the feds take over from there. Actually we have dual jurisdiction with the feds in there.

Estuaries – Its done from headland to headland on the ocean side and it goes to head of tide on the inland side where you have a tidal dam, where you don't have a tidal dam we need to decide what we want to do with that, but there is plenty of stuff in the literature to help us with that. The boundary between tidal wetlands and estuaries needs work and we haven't thought about that much yet.

Rivers – Kind of an intuitive definition, nothing official, they are free flowing un-impounded waterbodies. They are bounded downstream end by an estuary or an ocean or by the head of an impoundment and they have boundaries with wetlands, and lakes, where rivers and streams are tributaries to lakes that are not well defined yet.

Impoundments – They are waterbodies created by a dam on a river. So the intent here is that what was once a river has had a dam constructed on it and is now an impoundment. The impoundment goes from where the dam is back to some head of the impoundment where the river begins again, and we have to work on that definition. There are lakes which were originally lakes which have been raised by dams. We haven't exactly figured out what the difference is between a big broad river that has a dam on it and a little small lake that is raised by a dam.

Lakes and Ponds – There is no difference between a lake and a pond. They are all the same waterbody types, some of them are very small, and some are the size of Lake Winnepesaukee. This includes lakes raised by dams, and the difference there needs work. Boundary with upstream tributaries needs work and the boundary with wetlands needs work. Just a couple of examples, using a PowerPoint presentation, this is Little Squam coming down through Ashland to Pemigewasset, but this is 1/24k NHD, we have the Pemigewasset done, these blue lines, NHD basically has a directed drainage line network, which goes from the smallest blue line basically on a 1/24k all the way to the sea. The connected drainage runs through all other waterbody types. NHD has a slightly different definition than ours but our definitions will be consistent

with the national definitions. Paul gave a few more examples explaining that the squares represented dams.

Donna - Paul can you send out a copy of that?

Attachment D

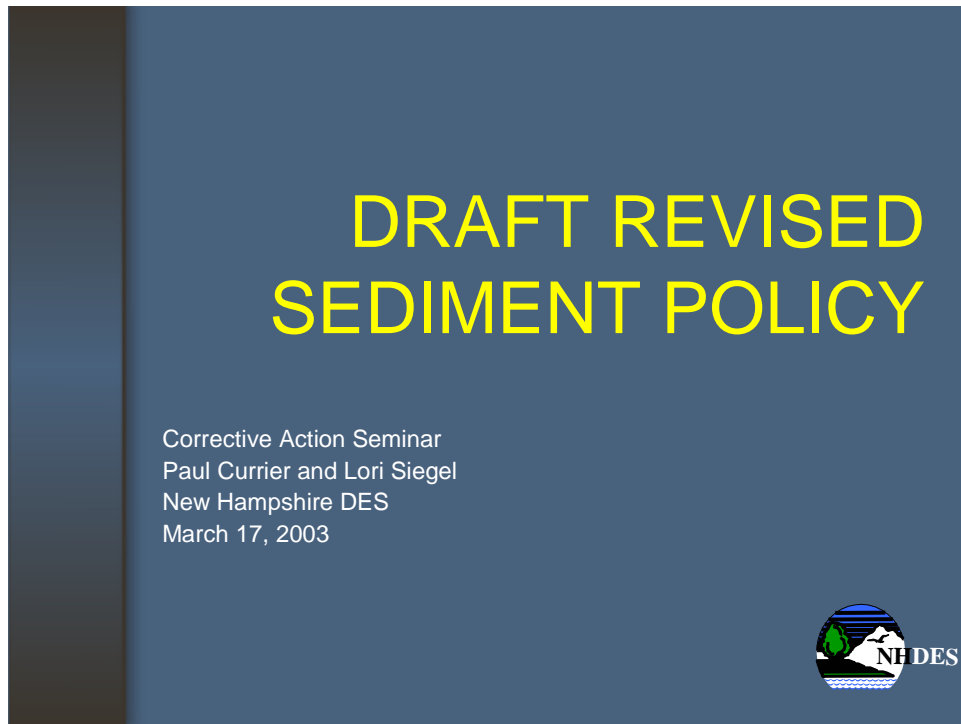
Other Business

Next Meeting Date and Times

- **March 22, 2004 , 1:30 – 4:00 PM location to be determined.**
- **Motion to Adjourn by Vern, Eileen Miller seconded, all in favor aye.**

The meeting adjourned at 4:15 PM

Attachment A



<..\20040209 meeting\20040317 Sediment Policy presentation2.lss.ppt>

Double click on slide to open slide show.

Attachment B

From: WESchro721@aol.com
Sent: Friday, February 06, 2004 4:08 PM
To: Currier, Paul M.; marge@nhacc.org
Cc: wberry@envirosystems.com; DICKHATA@aol.com
Subject: Water Transfers
Paul and Marjory:

I was astonished to read the proposals the NHDES is making with regard to changing the approach to permitting water transfers. This is to be discussed at the next meeting of the WQSAC on Monday, February 9, 2004. I will not be able to attend because of a death in my family. But I would appreciate it if you would read my comments (below) into the record of the discussion, and allow the others at the meeting to comment on them.

Comments on new approach to water transfers: Class A is OK

In the comments below "you" means NHDES and "lake" means lake, pond and any other applicable waterbody

1. In Surface Water Quality Regulations, Chapter 1700, it is quite clear that a Class A waterbody is supposed to be maintained as close to its natural condition as possible, and a Class B waterbody is permitted to be degraded, by human activity, from its natural condition so long as its quality is still good enough to support its existing and designated uses. That's the difference between Class A and Class B.

Your proposed rewrite of the regulations (e.g. EXCEPT WHEN DUE TO WATER TRANSFERS, Class A waters shall contain no color, unless naturally occurring) does violence to the basic philosophy. It leaves the whole chapter in confusion. If you can do all that to a Class A lake, what's the point of having A and B?

2. Your previous approach was the correct one. If someone wishes to transfer water into a lake, or do some other project which may pollute the lake, it should be a Class B lake so that the antidegradation provisions can be applied and a proper decision made. How can you apply antidegradation to a lake which is supposed to be maintained as close to natural as possible, period?

3. Class A lakes were classified as such by the legislature. That is a public act stating the intention for the lake which is the desire of the people. It can be changed if circumstances warrant, but only after public deliberation and a public act. Chapter 1700 says classifications can only be changed by the legislature. You are trying to circumvent the will of the legislature.

4. In your proposed rewrite, you set no limits for transferring water into Class A. At least for Class B there is a limit (in the example above the increased color cannot impair any existing or designated use). You probably meant to say "for water transfers into Class A waterbodies we would use the antidegradation rules appropriate for Class B". And that exposes the deception. What you are saying is "for water transfers, we will treat a Class A lake as if it were a Class B". You are administratively reclassifying it to Class B, for the purposes of water transfer, without due process.

5. What's so special about water transfer? If you do this for water transfer, how can you logically exclude other applications? What about point source discharge, or industrial development, or sewage discharge, why can't they get in on this? I foresee a raft of lawsuits from others wanting to get in on this permission.

6. Your stated mission is "to sustain a high quality of life for all citizens by protecting and enhancing the environment and public health in New Hampshire". I think it would be embarrassing for the Director of this Department to have to defend your proposed rewrite of the Water Quality Regulations in a courtroom. If you proceed in this direction you are inviting lawsuits from all sorts of environmental organizations.

7. In short, I think this approach is very unwise, and you should go back to the your previous path.

Sincerely yours,

Bill Schroeder

Vice President, Canobie Lake Protective Association

Phone: 603-898-6086 FAX: 603-898-6087

email: weschroeder@ieee.org

Attachment C

Presented To The Water NHDES Water Quality Standards Committee
February 9, 2004
New Hampshire Lakes Association Representative
Wendell Berry, Jr

Members of New Hampshire's lake community strongly oppose amending section ENV-WS 1703.10,11,13 and 14 of the lake classification system for purposes of resolving the regulation of existing lake to lake water transfers.

We oppose because we believe the lakes classification system was enacted to assist with the management of New Hampshire's lakes including the identification of lakes suitable for water supply and it should be amended only for that purpose not for the purpose of water transfer. We oppose for the ecological reasons detailed during previous meetings by Vernon Lang of the US Fish and Wildlife Service. We oppose for recreational reasons. Both in Maine and New Hampshire studies have been conducted which show strong correlation between water quality, real and perceived, on real estate value and subsequent tax value. We oppose from the perspective of the State on New Hampshire upholding the spirit of the public trust. Once water transfer is initiated, the State may find itself on the slippery slope of defining ownership.

It is understood that NHDES serves as both resource manager and regulator of the States lakes. This committee serves to advise the regulatory function. If as some say, the State's lakes classification system is weak my constituents do not want to see it further weakened. If the lake classification system is in fact strong, they again do not want to see it weakened.

With due respect to the water utility representatives and their distinguished consultants present, what we are considering doing here far exceeds securing the timely resolution of your particular situation. And I do appreciate your position as I served six years as an elected water precinct commissioner and during that time I learned some lessons about water access and costing.

The constituents I represent have said they would prefer to see the existing water transfer cases settled in a timely and fair manner perhaps with a grand fathering process. The regulation of new water transfers would become a new and separate issue.

Looking at the proposed amendments to ENV-WS 1708.12 and envisioning strict enforcement, they look all but impossible to achieve. Envisioning loose enforcement they will not accomplish their objective because at some point what is permitted will prove to have been wrong. So are we perhaps drafting rules void of having established policy? We need only look west in our country to see what tinkering with rules on top of bad policy has done to some of our finest rivers. My constituents hope that the State of new Hampshire would do better by its cherished lakes.

Attachment D

**A FEW NOTES ON
WATERBODY DEFINITIONS**

**WQSAC MEETING
February 9, 2004**

<..\20040209 meeting\A FEW NOTES ON WATERBODY DEFINITIONS.ppt>

Double Click on slide to see slide show